**CIRCULATORY SYSTEM - Review Questions**

1. What are 2 functions of the circulatory system?

2. Why do simple organisms like the *Hydra* not need a circulatory system?

3. What is the difference between an open circulatory system and a closed circulatory system?

4. What are the 2 main components of blood? What percentage of each?

5. Describe 2 characteristics of erythrocytes (red blood cells).

6. Name 1 type of protein contained in blood.

7. What type of blood cells are involved in blood clotting?

8. What antigens does blood type O have?

9. What antibodies does a person with blood type B produce?

10. What types of blood vessels carry blood toward the heart?

11. What is the term that refers to the increase in diameter of blood vessels?

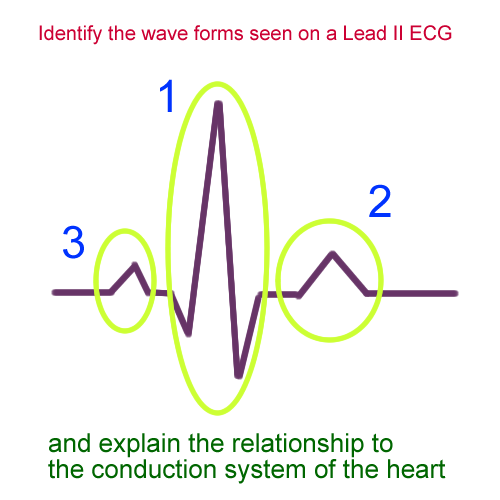
12. Where in the circulatory system are nutrients and gases exchanged between the blood and body cells?

13. Name the 2 major blood vessels that bring blood to the heart.

14. Name the 2 major blood vessels that take blood away from the heart.

15. What is the only artery that carries deoxygenated blood?

16. Which node (mass of muscle & nerve cells) is responsible for setting the heart rate?

17. Which node (mass of muscle & nerve cells) is responsible for transmitting signals to the muscles of the ventricles?

18. Examine the electrocardiograph tracing & identify what is happening in the

heart at #1.

19. What instrument is used to measure blood pressure?

20. What is systolic blood pressure?

21. What causes the “lubb-dubb” sounds of the heartbeat?**CIRCULATORY SYSTEM - Answers**

1. Any 2 of: transports nutrients, oxygen to cells; transports wastes away from cells; transports hormones (chemical messages) to target tissues; transports immune cells throughout the body)

2. The *Hydra* only has 2 layers of cells, and lives in water. All of its cells are in direct contact with water, so it can rely on diffusion to/from the surrounding environment.

3. open: blood is pumped by heart into body cavities; no distinction between blood & interstitial fluid, e.g., snails, insects, crustaceans...

closed: blood is contained in blood vessels e.g., earthworms, squids, humans...

4. 55% plasma

45% blood cells (mostly red blood cells)

5. Any 2 of: RBC's have no nucleus; they contain hemoglobin, which carries oxygen; they are red when they carry oxygenated blood and blue when they carry deoxygenated blood; they make up almost all of the cells in blood; they are biconcave; they survive about 120 days...

6. Any 1 of: albumins, globulins, fibrinogens

7. platelets

8. Blood type O has no antigens.

9. A person with blood type B produces A-antibodies.

10. veins

11. vasodilation

12. the capillaries

13. the vena cava (superior & inferior), and the pulmonary veins

14. the aorta & the pulmonary arteries

15. the pulmonary artery

16. the sinoatrial (SA) node

17. the atrioventricular (AV) node

18. the “QRS complex”, the electrical signal is moving through the Purkinje fibres causing the venrtricles to contract

19. a sphygmomanometer

20. blood pressure while the ventricles in the heart are contracting

21. the closing of the heart valves